

General

Title

Stroke: age-standardized rate of new stroke events admitted to an acute care hospital per 100,000 population age 20 and older.

Source(s)

Canadian Institute for Health Information (CIHI). Indicator metadata: hospitalized strokes. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

Measure Domain

Primary Measure Domain

Related Population Health Measures: Population Use of Services

Secondary Measure Domain

Related Population Health Measure: Population Health State

Brief Abstract

Description

This measure is used to assess the age-standardized rate of new stroke events admitted to an acute care hospital per 100,000 population age 20 and older.

A new event is defined as a first-ever hospitalization for stroke or a recurrent hospitalized stroke occurring more than 28 days after the admission for the previous event in the reference period.

Calculation Description: (Total number of new stroke events for persons age 20 and older ÷ Total mid-year population age 20 and older) × 100,000 (Age-adjusted)

Rationale

Stroke is one of the leading causes of long-term disability and death. Measuring its occurrence in the population is important for planning and evaluating of preventive strategies, allocating health resources and estimating costs. From a disease surveillance perspective, there are three groups of strokes: fatal

events occurring out of the hospital, non-fatal strokes managed outside acute care hospitals and non-fatal strokes admitted to an acute care facility. Although strokes admitted to a hospital do not reflect all stroke events in the community, this information provides a useful and timely estimate of the disease occurrence in the population.

Evidence for Rationale

Canadian Institute for Health Information (CIHI). Indicator metadata: hospitalized strokes. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

Heart and Stroke Foundation of Canada. The growing burden of heart disease and stroke in Canada 2003. [internet]. [accessed 2014 Mar 01].

Johansen HL, Wielgosz AT, Nguyen K, Fry RN. Incidence, comorbidity, case fatality and readmission of hospitalized stroke patients in Canada. *Can J Cardiol*. 2006 Jan;22(1):65-71. [PubMed](#)

Truelsen T, Bonita R, Jamrozik K. Surveillance of stroke: a global perspective. *Int J Epidemiol*. 2001 Oct;30 Suppl 1:S11-6. [PubMed](#)

World Health Organization. WHO STEPS stroke manual: The WHO STEPwise approach to stroke surveillance. Geneva (Switzerland): World Health Organization; 2006.

Primary Health Components

Stroke; acute care hospitalization

Denominator Description

Total mid-year population age 20 and older

Numerator Description

Cases that are new stroke events admitted to an acute care hospital, age 20 and older (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Regional, County or City

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

Age greater than or equal to 20 years

Target Population Gender

Either male or female

National Framework for Public Health Quality

Public Health Aims for Quality

Population-centered

Risk Reducing

Transparency

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

April 1 to March 31

Denominator Sampling Frame

Geographically defined

Denominator (Index) Event or Characteristic

Geographic Location

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

The total mid-year population age 20 and older

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Cases that are new stroke events* admitted to an acute care hospital, age 20 and older

Stroke present on admission coded as diagnosis type (1) or (type [M], [W], [X] or [Y], but not also as diagnosis type [2])

Age at admission 20 years and older

Sex recorded as male or female

Admission to an acute care institution (Facility Type Code = 1)

Canadian resident (Canadian postal code)

Note: Refer to the original measure documentation for the administrative codes.

*A new event is defined as a first-ever hospitalization for stroke or a recurrent hospitalized stroke occurring more than 28 days after the admission for the previous event in the reference period. A person may have more than one stroke event in the reference period.

Exclusions

Records with an invalid health card number

Records with an invalid date of birth

Records with an invalid admission date

Cadaveric donor or stillbirth records (Admission Category = R or S)

Stroke admissions within 28 days after the admission date of the previous stroke hospitalization

Transfers**

**If a subsequent stroke admission occurs on the same day as or prior to the discharge date of a previous stroke admission, it is considered a transfer.

Numerator Search Strategy

Institutionalization

Data Source

Administrative clinical data

Type of Health State

Adverse Health State

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

- Indicators are reported at the national, provincial/territorial, and regional levels.
- Unless otherwise specified, for indicators based on place of residence, data is reported based on the region of the patient's residence, not region of hospitalization. Consequently, these figures reflect the hospitalization experience of residents of the region wherever they are treated, including out of province, as opposed to the comprehensive activity of the region's hospitals (that will also treat people from outside of the region). Hospitalizations occurring in the U.S. or abroad are not included.
- For indicators based on place of service (where the patient was treated), data is reported based on the administrative region of the facility (e.g., region of hospitalization).
- Rates are standardized or risk-adjusted wherever possible to facilitate comparability across provinces/regions/facilities and over time.
- Standardized rates are adjusted by age (collapsed to five-year groupings) using a direct method of standardization based on the July 1, 1991, Canadian population.

Standard of Comparison

not defined yet

Identifying Information

Original Title

Hospitalized strokes.

Measure Collection Name

Health Indicators ePublication 2015

Submitter

Canadian Institute for Health Information - Nonprofit Organization

Developer

Canadian Institute for Health Information - Nonprofit Organization

Funding Source(s)

Canadian Government

Composition of the Group that Developed the Measure

Employees: Canadian Institute for Health Information (CIHI) Health Indicators

Financial Disclosures/Other Potential Conflicts of Interest

None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 May

Measure Maintenance

Annually

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates a previous version: Canadian Institute for Health Information (CIHI). Health indicators 2013: definitions, data sources and rationale. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2013 May. 89 p.

The measure developer reaffirmed the currency of this measure in April 2016.

Measure Availability

Source available from the [Canadian Institute for Health Information \(CIHI\) Web site](#)

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Companion Documents

The following are available:

Canadian Institute for Health Information (CIHI). Indicator library: general methodology notes - clinical indicators, March 2015. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 Mar. 19 p. This document is available from the [Canadian Institute for Health Information \(CIHI\) Web site](#) .

Canadian Institute for Health Information (CIHI). Canadian coding standards for version 2015 ICD-10-CA and CCI. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015. 511 p. This document is available from the [CIHI Web site](#) .

Canadian Institute for Health Information (CIHI). Health indicators interactive tool. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); [accessed 2015 Jan 20]. This tool is available from the [CIHI Web site](#) .

NQMC Status

This NQMC summary was completed by ECRI Institute on April 19, 2010. The information was verified by the measure developer on June 24, 2010.

This NQMC summary was retrofitted into the new template on May 18, 2011.

This NQMC summary was updated by ECRI Institute on March 18, 2013. The information was verified by the measure developer on May 17, 2013.

The CIHI informed NQMC that this measure was updated on October 31, 2013 and provided an updated version of the NQMC summary. This NQMC summary was reviewed and updated accordingly by ECRI Institute on February 21, 2014.

This NQMC summary was updated again by ECRI Institute on September 4, 2015. The information was verified by the measure developer on November 6, 2015.

The information was reaffirmed by the measure developer on April 29, 2016.

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Questions and inquiries may be directed to: CIHI, Health Indicators, 4110 Yonge Street, Suite 300, Toronto, Ontario, Canada, M2P 2B7; Phone: 416-481-2002; Fax: 416-481-2950.

Production

Source(s)

Canadian Institute for Health Information (CIHI). Indicator metadata: hospitalized strokes. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

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